SUPERFUND PROGRAM FACT SHEET

Kummer Landfill
Final Cover Feasibility Study

September 1988

INTRODUCTION

The Kummer Landfill in Northern Township was a privately owned and operated solid waste landfill which closed in 1984. Earlier that year, Minnesota Pollution Control Agency (MPCA) sampling had detected contamination in private wells east of the landfill, and the Minnesota Department of Health issued a drinking water advisory for an area of Northern Township. The MPCA received federal Superfund money from the U.S. Environmental Protection Agency (EPA) to provide a public water supply for the affected area of the township. Currently, approximately half of the residents in the affected area are receiving water from the Bemidji water supply, and the other half of the project is under construction, with completion expected next summer.

As part of the Superfund project, the MPCA also received federal money to begin an investigation of the contamination at the landfill, the source of the ground water contamination in the area. Under the Superfund program, the investigation into the extent of the contamination, called a "remedial investigation," is followed by a feasibility study that evaluates possible cleanup actions for the contamination found in the investigation. However, based on a report on the investigation thus far, the MPCA determined that more information will be needed. Because of this, in early 1988, the MPCA and EPA decided to split the landfill feasibility study into two parts: one to control the source of the contamination and the other to clean up contamination found as a result of the investigation. The agencies also decided to conduct the source control feasibility study prior to the completion of the investigation.

WHAT IS A SOURCE CONTROL FEASIBILITY STUDY?

A source control feasibility study refers to evaluating alternatives for controlling the release of contaminants and methane and other gases from the source -- the landfill. At landfill sites, source control is typically accomplished by installing a cover system on the landfill to divert water from seeping through the buried wastes, preventing the release of contaminants, and to control gases forming in the buried wastes.

PUBLIC COMMENT: We want your opinion. The public is invited to comment on the Feasibility Study between September 3 and September 24. Written comments may be sent to Elizabeth Gelbmann, Public Information Office, MPCA, 520 Lafayette Road, St. Paul, Minnesota 55155. The MPCA will consider local public opinion in choosing the alternative for a landfill final cover system.

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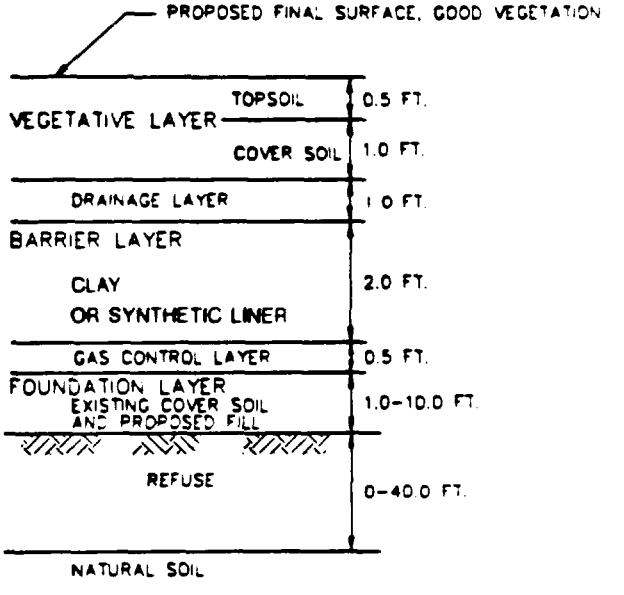
In addition, 3A and 3B comply with Minnesota's proposed requirements for final cover at landfills and meet the requirement for final cover in the former landfill's permit, at a lower cost than 4A and 4B.

Although 4A and 4B are more protective to the environment than the recommended alternatives, 4A and 4B are the type of caps used for closing hazardous waste facilities, such as industrial vaults containing heavily contaminated soil or hazardous waste landfills containing only hazardous wastes. Since the Kummer Landfill was a solid-waste landfill that received solid waste and household hazardous waste, the hazardous waste facility cap exceeds what is necessary for a landfill cover system, and is significantly more expensive.

The cover system for the landfill will not completely prevent movement of contaminants, however, because the MPCA believes that some waste may be in direct contact with the shallow ground water, and contaminants from these wastes will continue to move. A remedial action for the ground water contamination at the landfill will be evaluated after the completion of the investigation. Exposure to the contaminated ground water will be minimized, however, because the MPCA is completing a public water supply in the affected area of Northern Township.

3A and 3B (see diagram at right), from top to bottom, include:

- six inches of vegetated topsoil and one foot of cover soil to prevent erosion and damage to the barrier layer
- one foot of sand and a barrier of either two feet of clay (3A) or a 30-mil (30/1000ths of an inch) high-density liner material (3B) to divert water from entering the landfill and promote drainage
- six inches of sand with vents at the site perimeter to control and release gases forming in the buried wastes
- sufficient soil fill for a minimum 2% slope over the top and a maximum 25% slope on the sides of the landfill



During the next phase of the project, remedial design, the MPCA will determine which type of barrier layer will be used for the cover, based on more detailed information on the costs and after the competitive bidding process. The MPCA prefers clay for the barrier material, unless the cost of clay is significantly higher than the synthetic liner material.

WHY ARE THE ESTIMATED COSTS SO HIGH?

The MPCA's consultant provided a range of possible costs for the alternatives based on the volume and type of materials needed for the layers of the cover and estimated unit costs for each material -- sand, soil fill, clay, synthetic liner, and topsoil. The unit cost estimates were compiled from a variety of sources, including a number